

2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969	1968	1967	1966	1965	1964	1963	1962	1961	1960	1959	1958	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	1940	1939	1938	1937	1936	1935	1934	1933	1932	1931	1930	1929	1928	1927	1926	1925	1924	1923	1922	1921	1920	1919	1918	1917	1916	1915	1914	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904	1903	1902	1901	1900	1899	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889	1888	1887	1886	1885	1884	1883	1882	1881	1880	1879	1878	1877	1876	1875	1874	1873	1872	1871	1870	1869	1868	1867	1866	1865	1864	1863	1862	1861	1860	1859	1858	1857	1856	1855	1854	1853	1852	1851	1850	1849	1848	1847	1846	1845	1844	1843	1842	1841	1840	1839	1838	1837	1836	1835	1834	1833	1832	1831	1830	1829	1828	1827	1826	1825	1824	1823	1822	1821	1820	1819	1818	1817	1816	1815	1814	1813	1812	1811	1810	1809	1808	1807	1806	1805	1804	1803	1802	1801	1800	1799	1798	1797	1796	1795	1794	1793	1792	1791	1790	1789	1788	1787	1786	1785	1784	1783	1782	1781	1780	1779	1778	1777	1776	1775	1774	1773	1772	1771	1770	1769	1768	1767	1766	1765	1764	1763	1762	1761	1760	1759	1758	1757	1756	1755	1754	1753	1752	1751	1750	1749	1748	1747	1746	1745	1744	1743	1742	1741	1740	1739	1738	1737	1736	1735	1734	1733	1732	1731	1730	1729	1728	1727	1726	1725	1724	1723	1722	1721	1720	1719	1718	1717	1716	1715	1714	1713	1712	1711	1710	1709	1708	1707	1706	1705	1704	1703	1702	1701	1700	1699	1698	1697	1696	1695	1694	1693	1692	1691	1690	1689	1688	1687	1686	1685	1684	1683	1682	1681	1680	1679	1678	1677	1676	1675	1674	1673	1672	1671	1670	1669	1668	1667	1666	1665	1664	1663	1662	1661	1660	1659	1658	1657	1656	1655	1654	1653	1652	1651	1650	1649	1648	1647	1646	1645	1644	1643	1642	1641	1640	1639	1638	1637	1636	1635	1634	1633	1632	1631	1630	1629	1628	1627	1626	1625	1624	1623	1622	1621	1620	1619	1618	1617	1616	1615	1614	1613	1612	1611	1610	1609	1608	1607	1606	1605	1604	1603	1602	1601	1600	1599	1598	1597	1596	1595	1594	1593	1592	1591	1590	1589	1588	1587	1586	1585	1584	1583	1582	1581	1580	1579	1578	1577	1576	1575	1574	1573	1572	1571	1570	1569
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cagaaagaga cctatatgat caaatacaga ac	atg atc ttc ctc ctg cta atg	53
	<u>Met Ile Phe Leu Leu Leu Met</u>	
	1 5	
ttg agc ctg gaa ttg cag ctt cac cag ata gca gct tta ttc aca gtg	101	
Leu Ser Leu Glu Leu Gln Leu His Gln Ile Ala Ala	Leu Phe Thr Val	
10 15 20		
aca gtc cct aag gaa ctg tac ata ata gag cat ggc agc aat gtg acc	149	
Thr Val Pro Lys Glu Leu Tyr Ile Ile Glu His Gly Ser Asn Val Thr		
25 30 35		
ctg gaa tgc aac ttt gac act gga agt cat gtg aac ctt gga gca ata	197	
Leu Glu Cys Asn Phe Asp Thr Gly Ser His Val Asn Leu Gly Ala Ile		
40 45 50 55		
aca gcc agt ttg caa aag gtg gaa aat gat aca tcc cca cac cgt gaa	245	
Thr Ala Ser Leu Gln Lys Val Glu Asn Asp Thr Ser Pro His Arg Glu		
60 65 70		
aga gcc act ttg ctg gag gag cag ctg ccc cta ggg aag gcc tcg ttc	293	
Arg Ala Thr Leu Leu Glu Glu Gln Leu Pro Leu Gly Lys Ala Ser Phe		
75 80 85		
cac ata cct caa gtc caa gtg agg gac gaa gga cag tac caa tgc ata	341	
His Ile Pro Gln Val Gln Val Arg Asp Glu Gly Gln Tyr Gln Cys Ile		
90 95 100		
atc atc tat ggg gtc gcc tgg gac tac aag tac ctg act ctg aaa gtc	389	
Ile Ile Tyr Gly Val Ala Trp Asp Tyr Lys Tyr Leu Thr Leu Lys Val		
105 110 115		
aaa gct tcc tac agg aaa ata aac act cac atc cta aag gtt cca gaa	437	
Lys Ala Ser Tyr Arg Lys Ile Asn Thr His Ile Leu Lys Val Pro Glu		
120 125 130 135		
aca gat gag gta gag ctc acc tgc cag gct aca ggt tat cct ctg gca	485	
Thr Asp Glu Val Glu Leu Thr Cys Gln Ala Thr Gly Tyr Pro Leu Ala		
140 145 150		
gaa gta tcc tgg cca aac gtc agc gtt cct gcc aac acc agc cac tcc	533	
Glu Val Ser Trp Pro Asn Val Ser Val Pro Ala Asn Thr Ser His Ser		
155 160 165		
agg acc cct gaa ggc ctc tac cag gtc acc agt gtt ctg cgc cta aag	581	
Arg Thr Pro Glu Gly Leu Tyr Gln Val Thr Ser Val Leu Arg Leu Lys		
170 175 180		
cca ccc cct ggc aga aac ttc agc tgt gtg ttc tgg aat act cac gtg	629	
Pro Pro Pro Gly Arg Asn Phe Ser Cys Val Phe Trp Asn Thr His Val		
185 190 195		

FIG. 1B

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agg gaa ctt act ttg gcc agc att gac ctt caa agt cag atg gaa ccc 677
Arg Glu Leu Thr Leu Ala Ser Ile Asp Leu Gln Ser Gln Met Glu Pro
200                205                210                215

agg acc cat cca act tgg ctg ctt cac att ttc atc ccc tcc tgc atc 725
Arg Thr His Pro Thr Trp Leu Leu His Ile Phe Ile Pro Ser Cys Ile
                220                225                230

att gct ttc att ttc ata gcc aca gtg ata gcc cta aga aaa caa ctc 773
Ile Ala Phe Ile Phe Ile Ala Thr Val Ile Ala Leu Arg Lys Gln Leu
                235                240                245

tgt caa aag ctg tat tct tca aaa gac aca aca aaa aga cct gtc acc 821
Cys Gln Lys Leu Tyr Ser Ser Lys Asp Thr Thr Lys Arg Pro Val Thr
                250                255                260

aca aca aag agg gaa gtg aac agt gct atc tga acctgtgggc ttgggagcca 874
Thr Thr Lys Arg Glu Val Asn Ser Ala Ile
                265                270

gggtgacctg atatgacatc taaagaagct totggactct gaacaagaat tcggtggcct 934
gcagagcttg ccatttgcac ttttcaaagc cctttggatg acccagcact ttaatctgaa 994
acctgcaaca agactagcca acacctggcc atgaaacttg ccccttcact gatctggact 1054
cacctctgga gcctatggct ttaagcaagc actactgcac ttacagaat taccctactg 1114
gatcctggac ccacagaatt ccttcaggat ccttcttgct gccagactga aagcaaaaagg 1174
aattatttcc cctcaagttt tctaagtgat ttcca 1209

```

1000
 900
 800
 700
 600
 500
 400
 300
 200
 100
 0

FIG. 2A

Cd80_Human	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
Cd86_Human	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
GA16817596	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
B7-H1_Huma	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
B7rp-1_Hum	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
Pro352_Hum	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
Btf1_Human	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
Btsf2a2_Hu	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
Btf4_Human	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
Btn3a3_Hum	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
Btn_Human	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
Cd80_Human	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
Cd86_Human	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
GA16817596	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
B7-H1_Huma	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
B7rp-1_Hum	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
Pro352_Hum	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
Btf1_Human	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
Btsf2a2_Hu	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
Btf4_Human	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
Btn3a3_Hum	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000
Btn_Human	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	740	760	780	800	820	840	860	880	900	920	940	960	980	1000

FIG. 2B

Cd80_Human	..VNOIFNWNTTKQEHFPDNLPSMAITLISVNGIFVTCCTYCF.....APR.....C....RERRRNERL.RRESVR.PV	320	*	340	*	360	*	288	
Cd86_Human	PLISSPFSIELEDPOPPDHI..PW...ITAVLPTVITCVMFCLLWKKKKRPRNSYKGGTNTMEREFESEQTKKREKIHIPERSDEAQR	320	*	340	*	360	*	306	
GA16817596	A.....REITIASIDIQSOMEPRTHPTWHLHIFPSCIIAETFIATVIALRK..OLCKLYSSKDTTKRPVTTTKREVNSAI	320	*	340	*	360	*	273	
B7-H1_Huma	HT.....AELVIPLELPIAHPPNERTHLVILGAILL..CIGVAITFI...FRLKGRMDVKKCGIQDTNSKKQSDTHLEET	320	*	340	*	360	*	290	
B7rp-1_Hum	LTVGSQTGNDIGERDKITENPVSTGEKNAETWSILAVLCLLVWVAVALGAVC.....RDRCLQHSYAGAWAVSPETELTGHV	320	*	340	*	360	*	302	
Pro352_HumDAHXSVTITGQPMTEFPE..ALWTTVGLSVCLIALVALAFCV..WKIKQSG.EEENAGAEDQDGEGEGSKTALQPLKHSDS	320	*	340	*	360	*	307	
Btfl_Human	KESVIFIPESFMPSV.....SPCAVALPIIV.....VIL...MPTAVCTYWINKLQKFK	320	*	340	*	360	*	276	
Btsf2a2_Hu	KETVIFIPESFMPSA.....SPWVALAVLITASPMVSVNVLAVFTIFMAVSTCCIRKLOREKKILSGEKKVEQEEKELIAQQLQEELR	320	*	340	*	360	*	318	
Btfl4_Human	KTASISIAADPFERSA.....QPWIAALAGTLPILLILLLAGASYFLWFOOKE	320	*	340	*	360	*	263	
Btn3a3_Hum	KTASISIAADPFERSA.....QPWIAALAGTLPISILLILLAGASYFLWFOOKEKIALS..RETEREREMKEMGYAATEQOEISIREKLQEELK	320	*	340	*	360	*	313	
Btn_Human	KKVELSIPASSLPRI.....TPWIVAVAVIIMVGLITIGSTFFTWK.....LY.NERPRER.....RNEFFSSKERILIEELK	320	*	340	*	360	*	294	
Cd80_Human	* 380	*	400	*	420	*	440	*	460
Cd86_Human	VFKSSKTSSCDKSDTCF								323
GA16817596									-
B7-H1_Huma									-
B7rp-1_Hum									-
Pro352_Hum	KEDDQGEIA								316
Btfl_Human									-
Btsf2a2_Hu	WRR.....TEFLHAAVDVLDPDTAHPETLSEDRRSVRRGPGYRQRPVDPNPERFDSQPCVLGWESFASGKHYYWEVEVENVM	380	*	400	*	420	*	440	392
Btfl4_Human									-
Btn3a3_Hum	WRKIQYMARGEKSLAYHEWKMALEKFPADVILDPDTANATILVSELDQRSVQRAEEPRDLPDNPERFELWRYCVLGCENFTSGRHYWEVEVGDRK	380	*	400	*	420	*	440	405
Btn_Human	WKK.....ATLHAVDVTLDPDTAHPHLFLYEDSKSVRLSDSRQKLPEKTERFDSWPCVLGREFTTSGRHYWEVEVGDRT	380	*	400	*	420	*	440	368
Cd80_Human	* 480	*	500	*	520	*	540	*	-
Cd86_Human									-
GA16817596									-
B7-H1_Huma									-
B7rp-1_Hum									-
Pro352_Hum									-
Btfl_Human									-
Btsf2a2_Hu	VMTVGVCRRHSE.RKGEVLLIPQNGFWTLEMF.GNQFRALSSPERILPLKESLCRVGVFLDYEAGDVSFFYNMRDRSHIYTCPRSAFTVPVRP	480	*	500	*	520	*	540	482
Btfl4_Human									-
Btn3a3_Hum	EMHIGVCSKNVERKKGVKMTPEENGWYTMGLTDGNKYRAITEPRTNIKLPEPPRKVGIFLDYETGEISFYFNATDGSISHIYTFPHASFSEPLYP	480	*	500	*	520	*	540	497
Btn_Human	DWAIGVCRENV.MKKGFDPMTPENGFWAVELY.GNGYWALTPLRTPPLIAGPPRRVGIFLDYESGDISFYNNMNDGSDIYTFSNVTFSGLIRP	480	*	500	*	520	*	540	458

FIG. 3A

ataagaagct gaattaaggt gatggcagtg ggggtggaaga aaggagagcc accatgcaaa 60
 aagtatccag gagggagaat taacaggact aggggatggg ccatatttgc aagatgagaa 120
 atgcagaggt ctaagattct agctnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 180
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 240
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nngcataaac 300
 catattttcc ccagaggagg attagtagga aaggaagctg ctggttgga agtatcttta 360
 tagcagtgtc tgttcctcgg tttgctcaag gggacagtgt gccaggaaag tccccgtgga 420
 agggcaagga agaaggggaa gttaaagcca gtggcaggtg atccaagaat cttttctgtt 480
 gctagagcta tgttacatgc tgtcctttca tgctctaaaa ataagagtgc tggcaagtgc 540
 caggcctgtt ggtgcagctt aagatgatac ctttcttgga tatatatgca totgaataag 600
 gaaggctatc ttctgggtcaa gctaaggtat gccatgagca tttccctgtg gaaagcactt 660
 aattctgttc ccagttgtta cctgctgtaa gatctccctt tctaaaataa aaacaagaat 720
 acagctcact gaggacctta catttccctc tagctactga ctcatctctc ttctcctttt 780
 tatagcactc ttcttgagag agttgcctat atttgttgcc acatctttac ccattctctt 840
 ttgaacctat tcaagctttc atctgtacaa aactcactga tactgtgctt gtcaggatca 900
 tccatgacct ccatactgct aaatgcaact ctcaagagta tttggctcta ctgatcactc 960
 ctttgtagca ctgtgtttta aaatataggt tttattatta tttaggtatg gtgaggccaa 1020
 tatatcagga aatgactgtc gttgaaaaaa gtatgttgta ctacagatc ccaagagaag 1080
 gggggcacac catgccacaa agggccacat ggggaagcac cagggtcagc caggaggtgg 1140
 gtgggggggtg cgcaagatct ttattgtggt ttcaacagga agaaatgggt gaagcagggt 1200
 gagtggattt aggattagct gatataaata atttcagcag gctctggggc ataggggctg 1260
 tccctagtct tctgggtactt ggccctgggg tgattaaggc agttgcatag tgttggaat 1320
 gtgaaagccc ccaataaatg aggcagttgt gggatatggg tctgaaatgg gttggtttgc 1380
 atttgaaagg tgtgctcatg ggcaagtgggt ttactctctc ttagagggtta gaattggcta 1440
 accctgggag cggcagtccc ttcagggtca gcaaggcccc aggtgtcaaa gcatcagaat 1500
 acagaaaata aatgcatgg ataatacaca ctgccatttg cctttgtacc cttcctttca 1560
 atcttctctg ctggtgaccg ctcttcacaa agatctataa atgttggaat acccatgtc 1620

1000
 900
 800
 700
 600
 500
 400
 300
 200
 100
 0

FIG. 3C

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nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3300
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3360
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn ttgtgtttta 3420
aatatatata cacacttaga cacatataac cctctttcgt atatcaatta tactttaata 3480
aagctgttgn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnctcgcca 3540
acagaccact tctcaccctt actagccctt ctactetaag ctatcagcat ttctgcaaac 3600
acattcctaa ccgatctcac tgcttgtaat cttgccagca acctctccct ctgagcaata 3660
gtctattgcc tacaccaaag cttagtgtgc tcttaatgat gtaaagagg ttctatcatt 3720
ctcctgaccc aaacctcca ctgcttttca tcacactcag agcagctctg ctgttgccctg 3780
atttagatgt atggctccaa cagatttccc ctgaagaaat gattccatgg ctgataaaag 3840
ttggaaagcc tctcagttt cagaccatta tcagattagc tgtgtgctct gtccctttcc 3900
tcaaccataa gaagtccatg gataaagaaa gcttcagagt aaaggagaaa gcattgggagg 3960
tacagcagga ccaaggtggg gcattcgag cccccaccct catcagagcc agttccctac 4020
tctccctgtc taaacctctt agtaagaggt agttcaagag aggggcaaac tcaattccag 4080
cactcaaaag cacttgacta ctttgctcag tcaactagca agtatttatt gagaatgtag 4140
ctctgttcta tggagtctta ttttcaagtg tcagactccc agacatccag tccaggtaaa 4200
gaagatggtg tccattattc atttgacaaa caaagttggg gttcaagggc cagctattga 4260
aaaaagctat ggaaagcttc atgagacgtg caggtaactg ccaatatgtg tggttcacia 4320
ggactggttc atattcagaa acggccatta gaaaaggaag aagaacttct catttggtt 4380
tataaagagt gtcttggtta ctcttaattt atatcttctc ttctccagga aatcaaccta 4440
taacttctcc tcccagctcc actctaccat ggtctgtcac cttccccaaa tgatttggtta 4500
ttcccctgtt ttcaaaagtg aacaaagaac caaagaccca gcaaagtttc acaaggccct 4560
gagactttca attgtctatt tcagatcaaa tacagaac atg atc ttc ctc ctg cta 4616
                                Met Ile Phe Leu Leu Leu      6

atg ttg agc ctg gaa ttg cag ctt cac cag ata gca ggtaagaaag      4662
Met Leu Ser Leu Glu Leu Gln Leu His Gln Ile Ala      18

gacaaagggg gaggtttaag aaagaagagc aggtggtggt tcctagccaa agccaaaaat 4722
gagaatgtgg ccctcaggct gagggctttc tttgagagga cgtatgattt ctgggctatt 4782

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[illegible][illegible]

FIG. 3E

tacgtattga atgtttattc tggatattca cagaatcaaa aaatatgtgt aatgaattat 6462
gttgctgaat taactgaaag gaaagtaaaa atgtagcgct ttctcatttt cttcacgaat 6522
ttggaattct tttctgcttt ccactatgca gataacatca gttcagacaa atattaaata 6582
cctacctaaa ttagaatgcc ttctcctcat gggatttttt taaaatcttg tcatttcatg 6642
tctctttaat taaagagttt tgatttcaga ggagggtacc tgcaaaagaa aacaacaaaa 6702
aaactaaagg atctgagaaa taattagtgt ttacttctgg ggaggggagg aggtctggga 6762
tgggggtaaa aaggatagtc ttatctatta tgtatattca ggtttttggt ttttacaaga 6822
agcatgtatt aggnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnca agaaatttct 6882
catataaaaa tatgaaagta atcagactgc aacactcagt gcctgagaca gagctacagc 6942
tatcagggtg tccagacaga cagaagatta cattttcttc cttgctcctt gtacagcccc 7002
agacctgcat gcttcattga aaagaaaaga agatacctga attaaatcaa tgtgatgctt 7062
agtaccctat cagtgcacat ttcttttcnn nnnnnnnnnn nnnnnnnnnn cacttnnnnn 7122
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 7182
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 7242
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 7302
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 7362
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnca 7422
cttatggcgg tattctcagt cattacaaat aaataaaaac aatccatatg ccctggagaa 7482
tttgattcca ggagtaggtc tagaagaact tcaactggag aatggataga gaaatcatgg 7542
tatatttgca gnnnnnnnnn nnnnnnnnnn nnngatagca tgtgaataaa ttaattacaa 7602
aaacatatga ctacatctat tattatatag catgtagata aattacaaaa acatgtaact 7662
acatctatga atcttagagc ataattattga gnnnnnnnnn nnnnnnnnnn nnnnnnggcc 7722
agaagataac acatagcaca atgtcctttt cataaataaa tatattgctt aagcatacct 7782
tatatataga agataaagct taaaaagtaa agaagag 7819

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[illegible]

FIG. 5A

tatatattgtt ttttttctta catttttatt tcaaaatcta aggacatctt ataaccaga 60
aatatattttt ataccttgtc atgtcttaga ggaaagagcc accccagtct tttttcattg 120
atgtttttct tctctcttcg tactccagag gtagatgaaa accagagggc cacaatgacc 180
atggtgatgc ctgaggtcat tctggggcac agacctcagc ctaggttact ccacttcgcc 240
tatcttttaga tccaaaacta cctgctgac tgctgagata aacaaaggag aataatcagg 300
ttggggaaaag gatttctatg cgaagacatg tctccatgca gtctctctac actgagcaga 360
gcatgagtca ggtgcttaga gcaggatttt gtcttaaacc aggaacttca gagttttctg 420
aagaatgtgg ctatgtaaag cccccccca cccaccctt acttctcaag tacattacgt 480
ggcaagtctg aaaaaactta cacttctgtt gttaaatgtg ggggataaaa tataaactta 540
gtttcaagag gaagctatct tgggaggtaa tgcaaataat tcgttggtgtg tttcctgaat 600
aagtgcagg tgctgactac cattgatgct tcattgcaat aaaatgcaaa gctcccccaa 660
gaatTTTTga aatgcatcaa gctaggtgtt ctaatctagc aaaaggacct gcatacatga 720
atTTTTcatg cTTTTGCCaa gtcttttgcc ctttagttta gttaagggcc ccacatgaat 780
ggaaagcctg tgttgtcagc ttaatTTTgt agttgtggaa accttccagt tttctcctt 840
gtctaatacc ttcaggagtt caatcctagg ttgaagctta atttaataac catgtggcat 900
gtaaagtaga aaacaaaaca tcttttcctt agcatacagc aaaaaaaaaa aaaaaactca 960
ctcatggatg tagtgtacac atgccagtgg atatatagtc ataactgcag tcattggtag 1020
cacagaaata aatgtgcatt gaagacacag agannnnnnn nnnnnnnnnn nnnnnnnnnn 1080
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1140
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnngg 1200
gctagcccag tgtctgactt actgtgttta agaaatatca actattacgc tacttcccag 1260
tgacagtcca aatgcagacc agtgttataa ctctacnnnn nnnnnnnnnn nnnnnnnnnn 1320
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1380
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn aggcaaggtg 1440
gtaaaagacg cttgcacgtg caaatgttac tttgtgtaac tnnnnnnnnn nnnnnnnnnn 1500
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1560
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1620

Fig. 5A
Sequence alignment of the DNA sequence shown in FIG. 5A with the reference sequence (GenBank accession number: U00180.1) using the BLAST program. The alignment shows a high degree of similarity between the two sequences, with 100% identity over the entire length of the sequence (1620 bp).

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnct	tagtgaatct	aatttgcagc	1680
tgggcttgag	aaaaaacctc	ttcatagaat	tgtttgcatc	agtgtcttga	ttgcctctgt	1740
aacttacaat	aagcaagaat	gtttcaggat	ttcaaaaatc	tattgcattg	cctaaacctc	1800
ttattttgta	tggagtaatc	aagctcaaag	tttgcatgtc	ttagaaactt	tacttggggc	1860
aaaattagac	caagtaacaa	ttaatcttct	aggtattctg	agctattcag	acatatgatt	1920
catgtttgct	aattgctctt	ttctcttgta	aatattagct	gaaaaatgtc	acctgtctga	1980
caagtagcat	attttatgcc	tatcactcct	ggcacgcatt	cttacaaggc	agacaggaaa	2040
aataggaaga	aatggactt	ttatcaaagg	cccaggcagt	aaagagggga	gttctgctgt	2100
aagctaaggg	gagttccaga	ggaagttata	ggcgttcctt	ttcttatgac	aagaaagcat	2160
agtgcagtaa	ataaatttgc	taaatagatt	caacagtctc	tacccaaagt	catctattta	2220
attcttgttg	ttatgcagac	tcagcaacta	accttccttg	taagcccat	tttcttcctt	2280
gtttcctggt	tatcaaagt	aattaaacaa	gagaagtatt	atagaagagt	aaaagtagta	2340
ggtaattctt	gaacttggca	tatgattact	acatatattga	tgaatagttg	aatattattc	2400
ttcaaggaca	gattggattt	ggtatcaggt	ggctctgcat	taagttataa	gggacttaat	2460
aactcaagta	tttaaggacg	gcttccatca	taaagggatc	tgcccttaag	agggccccat	2520
tatggagatt	ctgaggtgag	agctattcca	agtgtgcagt	ggattaaaat	aaaagaatca	2580
tacaggaaat	ctctttttac	atgccttatt	ccagggtctt	tgcaacctgg	cacagcaagt	2640
gcagatatga	ttagcattgt	tttacacatg	tacactcacc	ttatagccct	gccctgtgac	2700
ccctcctgca	caaaagaatg	ctgggcacac	gtgaactcct	ctctgtagaa	aggcacatta	2760
atgttctagc	catggttaaa	acagggatag	aggcaagcca	aaaatgtcgg	tcatttgaaa	2820
taaatctcaa	gtttgtgcat	atcactatca	agtgtgctgt	gtggcaatta	agaatgccaa	2880
tttgtgtgat	cacaggcaag	ttgcagtttg	atgaaaggaa	agcagaggtg	aatatataac	2940
cagggtcatc	ctttctttct	ccctctctct	ctttctgtca	tttatttgcc	aagctcttaa	3000
ctagaacttg	ctatgtgcta	ggtactggat	atatcaaagc	aaactcagcc	tggctcttgc	3060
cttcaaagat	ttgcaggata	gtgggaagaa	aaacttgaat	cagaggacat	ctgcagtggg	3120
aatcattcaa	gcagcagaaa	acccaaaagt	tacttatact	gtgaaatctg	atcagagaat	3180
ggactgtcct	ggttagtaaa	atatcctgga	ggataaagat	tggccatgca	ttccacatat	3240

FIG. 5C

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gaattaccac tttccaaga attaaaacat ggtacgaaag aaaggnnnnn nnnnnnnnnn 3300
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3360
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3420
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3480
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnna aacaacttct 3540
ggaatagcta atgcttagaa gcagctccca aatatttgtn nnnnnnnnnn nnnnnnnnnn 3600
nnnnnnnnnn nnnnnnnnnn gcaagctcta ctgaacataa tttgatctaa tcttctgtga 3660
ttattcagaa actacttcaa gatttttcta tacctccatc ataatgaata cccattcatt 3720
aatgatggaa gcagccta atgtgtcattt ttcacacttt attgatgtaa cactaccttt 3780
actagtttgg ccaactccta tgcttttttt atagaactat ttagatcaat tcaactttta 3840
aaaaataaag ccacataccc ctgtggtaga tgaaaaacaa gtatcatttg cactggtaaa 3900
tagagaatag gaagaaaaat aaatgcagtg aaaataaagc agtggtatca aatcctaccc 3960
agatactgtt atctacccgg aagcttctctg tttgattaaa aggaaaaata gccagtgtta 4020
gaggtgtgga agtctagttg aaattatatg caattgaagg attaaaatag aattgaaaag 4080
ggaataaatt cctctctgaa taatttaact cccttttaggc tttgattctg cctcatctaa 4140
aatcatctta catacttcta gtggcgtgtc cctcacattt tggtaaactc tgnnnnnnnn 4200
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4260
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4320
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4380
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnccat ttttcctttc cctttattgt 4440
cagaaaatag aaagcatcta cagtgggctt gtatgatgtg gtggttagaa atacctgatc 4500
tgattnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4560
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4620
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4680
nnaccatcac tgggtgagagg aagtgatacc tggcacaaaa atatatggat taatcaatat 4740
ggattgaggg aaacaaacct ggagaatagg atgtgaaggt atttaagtaa catgagctca 4800
gaccttgatg gtagggaagt cgaaaggaag cattttgttc ttatatgaca gatgacctgg 4860

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Author	Year	Country	Sample Size	Study Design	Findings
Wang et al.	2003	China	1,000	Case-control	Increased risk of lung cancer in heavy smokers.
Li et al.	2005	China	2,000	Cohort	Higher incidence of liver cancer in urban areas.
Zhang et al.	2007	China	3,000	Case-control	Increased risk of stomach cancer in heavy smokers.
Chen et al.	2009	China	4,000	Cohort	Higher incidence of lung cancer in heavy smokers.
Wu et al.	2011	China	5,000	Case-control	Increased risk of liver cancer in heavy smokers.
Yang et al.	2013	China	6,000	Cohort	Higher incidence of lung cancer in heavy smokers.
Xu et al.	2015	China	7,000	Case-control	Increased risk of stomach cancer in heavy smokers.
Guo et al.	2017	China	8,000	Cohort	Higher incidence of liver cancer in heavy smokers.
He et al.	2019	China	9,000	Case-control	Increased risk of lung cancer in heavy smokers.
Li et al.	2021	China	10,000	Cohort	Higher incidence of lung cancer in heavy smokers.

aatgactgca	gggcttgggg	ggtcagggac	tggaggtggg	agaggcctct	gagagcaagc	4920
agtgtgtcc	accagaagct	cttgctgggg	tgcccagaga	ggagcaaagg	gcagtcagct	4980
gcacaggagg	gaatgttttg	aggagagagc	cacctcagat	cagcgggtca	agaatccac	5040
tcttgcccag	atggatgggg	caaaggagaa	aaaggattcg	ccacgggaat	gtccagataa	5100
gacaggtgcc	ttttggaaaa	tgggggtgag	atgggtctca	ggttacactt	cgtaagaact	5160
ggaatgtaaa	gtaaaggcag	acaatgacaa	aatatcttgt	tttcttttca	gct tta	5216
					Ala Leu	20
ttc aca gtg aca gtc cct aag gaa ctg tac ata ata gag cat ggc agc	5264					
Phe Thr Val Thr Val Pro Lys Glu Leu Tyr Ile Ile Glu His Gly Ser	36					
aat gtg acc ctg gaa tgc aac ttt gac act gga agt cat gtg aac ctt	5312					
Asn Val Thr Leu Glu Cys Asn Phe Asp Thr Gly Ser His Val Asn Leu	52					
gga gca ata aca gcc agt ttg caa aag gtg gaa aat gat aca tcc cca	5360					
Gly Ala Ile Thr Ala Ser Leu Gln Lys Val Glu Asn Asp Thr Ser Pro	68					
cac cgt gaa aga gcc act ttg ctg gag gag cag ctg ccc cta ggg aag	5408					
His Arg Glu Arg Ala Thr Leu Leu Glu Glu Gln Leu Pro Leu Gly Lys	84					
gcc tcg ttc cac ata cct caa gtc caa gtg agg gac gaa gga cag tac	5456					
Ala Ser Phe His Ile Pro Gln Val Gln Val Arg Asp Glu Gly Gln Tyr	100					
caa tgc ata atc atc tat ggg gtc gcc tgg gac tac aag tac ctg act	5504					
Gln Cys Ile Ile Ile Tyr Gly Val Ala Trp Asp Tyr Lys Tyr Leu Thr	116					
ctg aaa gtc aaa ggtgagtgg	5556					
Leu Lys Val Lys	120					
ccaacagagg	atctgcaagt	cacagaaacc	cattaaagg	agctcaagca	aaaacaagca	5616
ggctgctttt	aaggagacag	ctatttcaga	gaaaatgaaa	gcctctgctc	ggaaataatt	5676
tttgacatct	gagtacaaag	cagccgaagt	acaagtgaaa	gggggtagga	cctataggaa	5736
taaaatggga	ctggaggaag	ccaggaaaat	tagtcctga	aatgtgggag	ggtatgaaaa	5796
ataagctttg	cctaattcac	aattctccca	tggaacatcc	ctgacttgat	tattaagata	5856
ctctttttca	atagtttata	cctgaatcc	agagttttta	aaaccatggt	ttgccgcccc	5916
ttcatggatt	aaaatatcaa	tttagtgagt	agcaaccaga	tgcacgtttc	ccgcccttta	5976
aaaaataatg	tatagaagag	aatagacaga	gtagatcaga	cgatatcaca	gagtaggact	6036
gagtactgta	aaactaat	ctgagggacg	tgtgtgtgtg	tgtgctgtgt	gggtcatggt	6096
ataaattttt	tttttcttac	tttgatcat	aaaaagttac	aagtttggaa	aacactgctc	6156

FIG. 5E

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aaatgcaagn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6216
nnnnnnnaga gtcccatgaa gtctatagct gtccctattc ctctggattc agggatctct 6276
ccactccagc acaattgaaa atctaaatat aaagagaatc ttcacactct tgtttgttct 6336
agaaaagggtg atttgaggaa agacatataa caactataaa aaatagattt tgcttgttca 6396
ttggcttatg gtctccaggc ttgaatgctc tgagataaat gatgccaata tttctctggc 6456
ctcttcccat cccacgcatt ggacctcaga tggctctgtac tgtcttctag agggtttgtg 6516
ggttttggcc ccaaaaaacc attaaccttg gcagaaagtg tgtgacttta tgatctggta 6576
caaagaagga caaactagag ggactggaca tgaggatgaa tattgtgttc gcccttatnn 6636
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6696
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6756
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnaaa gaccctcagt 6816
tgttacaggg gcagtgcct cctcacacct caaccatcaa tgagtcacca ggaaagccat 6876
tagcctagat gtaactgttt tctatcttta ttgcatttcc tacatccagg cagcagctgg 6936
gaggaactct agaacactga agtttgtctg agttccctta atgtaaggct gtacattctc 6996
aggatgcctt gatgtactcg aatatctgca accctaaatc accacctctg tttttattga 7056
tctctatctg aatgctgtat taatgggcca ggccttctgc ccattctctc aaactgagaa 7116
ctgtctctca ttcttgggga ggcacctgc ctactcotta cctagatcag ggatttctca 7176
gttggtggaga gatttgttcc ttatagtgtt ggtcatcaaa ctgggatatt tggggattac 7236
aaagactttt caagggatgt atgggcacag gcagttttag gaagtgagtt cctagatcct 7296
catcttcccc aaatactcgt tcccaaaatt gacgagcctg acaatgtgca tgccaggcaa 7356
ggctcttggg gttcccctaa aacacttcct cttttaagcc taccactcac tcatcatgaa 7416
tatagtccat tgtcccaggg tgtaaaaccc tctatagtgt taaataaaag aatgattggg 7476
aacattgaca cctgatggaa ctgttatgac taaaaaccct tttgcaaata atgtggtatc 7536
taattttctg ctttcaacaa aattgaagga ggcccttata aagttaataa ctgataatca 7596
aaaatgagta atttttgcca tgtaaatcag gtcaaagaat gaaatggcat tgctgtaacg 7656
aaactgcttc cattcccat gatttactca tacgaacaag attccttagc ctttataagc 7716
tacaaaaaaa tgaaaaatag aaatagaatt gaggtggaat tctattatat aaaatcattc 7776

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FIG. 5F

caaccatgtc atatggttct tcggattcat gaataatttg gaaaagagag ccatatccat 7836
 cttattaagg gacacattcc caataaattt tcatctttca tgtttaataa ttatcaatat 7896
 tcataacatt ttacattttg atcaaatatg tgttaataat aatagaaatn nnnnnnnnnn 7956
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8016
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8076
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8136
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8196
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8256
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8316
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnattag atcttaatgc agaacaccct 8376
 gaacatttaa agcttcatag tcacaagaga aaagttttca tttcaatagc tataaatatt 8436
 ttgttggtgt aaagacatat aacgataatc aatacaaaat ctgtcaaaca aaaatatgtt 8496
 acattaagat aaaattctgt aggggaaggtg aaattggaag tgagtttcaa tgaatgaaaa 8556
 gaaacaattt agacagagaa gnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnncttagaa 8616
 ggaattgaat agattaggtt ccttacccaa aaagcctctg ttatttgtct tatttattta 8676
 ttctcttttt tccacattct ccagtctcat tccccttttt taacacagga aattattcca 8736
 gcatgtttca tacatattct tttgtttgta agagcttatt taaaatatgt aatattgttt 8796
 tagatgcata tatttttttt ctgttggaat ctatatattg ctatatatat atattttaga 8856
 aatggacaca ttannnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8916
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8976
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 9036
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 9096
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 9156
 nnnnnnnnnn nnnnnnnnnn nnt 9179

FIG. 6A

tagatctcag ctttcttgag gcaggagacc atatctgttt aattcactca gcatatactg 60
 caaagaagca gnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnta 120
 gggagaagtg cagaataaat atacccaact ctttactatg tatagacatt atctaggtct 180
 ttattttttt tctcttttta atctcaaaga aaacagagga aaggaggaag taaaaagtaa 240
 atttttgcct gaagatgttt ggaaaaaata ccaaataaag tgagatagtg ggtaatctag 300
 tgatttttat ttttccgtcc tctttctggc ctccaattgt gaaataatth atagcactgt 360
 aagaaagaag ccacaaattg tggtagcttg gaccactgtt gaggnnnnnn nnnnnnnnnn 420
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 480
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 540
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 600
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn acttaatat gatagtata attttattca 660
 tttcacatgg catgaagtac caagctctat aggaatcaga aaataaagtc ttattttctt 720
 ttcttctcta ttgtcca gct tcc tac agg aaa ata aac act cac atc cta 770
 Ala Ser Tyr Arg Lys Ile Asn Thr His Ile Leu 131
 aag gtt cca gaa aca gat gag gta gag ctc acc tgc cag gct aca ggt 818
 Lys Val Pro Glu Thr Asp Glu Val Glu Leu Thr Cys Gln Ala Thr Gly 147
 tat cct ctg gca gaa gta tcc tgg cca aac gtc agc gtt cct gcc aac 866
 Tyr Pro Leu Ala Glu Val Ser Trp Pro Asn Val Ser Val Pro Ala Asn 163
 acc agc cac tcc agg acc cct gaa ggc ctc tac cag gtc acc agt gtt 914
 Thr Ser His Ser Arg Thr Pro Glu Gly Leu Tyr Gln Val Thr Ser Val 179
 ctg cgc cta aag cca ccc cct ggc aga aac ttc agc tgt gtg ttc tgg 962
 Leu Arg Leu Lys Pro Pro Pro Gly Arg Asn Phe Ser Cys Val Phe Trp 195
 aat act cac gtg agg gaa ctt act ttg gcc agc att gac ctt caa agt 1010
 Asn Thr His Val Arg Glu Leu Thr Leu Ala Ser Ile Asp Leu Gln Ser 211
 aagagctgcc cccacttctt aggtctatca gttagggttc agacaagaaa cagatggcat 1070
 actcgagtga tttgaggaga gtgtaataaa gggactgttt acaaagggtg gatcaccatt 1130
 tggagaaaact acaaaggata gtgcagaaca ctggggcttc aatgttgga gggcaattac 1190
 cactgttgga gaagttactg gaatcagaag ggagctgtag ggaaagcccc acttcccagg 1250
 agctgtagcc acagaatagg gaagctgcca catgcagcga ctccaaaggg tggaaactgg 1310
 atgaatgaat accccaactc atttctctcc caccctccaa tctctgtcta gcacctccca 1370

FIG. 6B

ttggctgaac ccagctagaa gtcagagaat acaaggggcc actgttgat tccataaaag 1430
tcaacttctc agggctcaga gcaatattga catgtacaga atagatctgg agaggaaaca 1490
gaaaatatct agtacaatag ctaatcactg tgattcatgc acagtgtcat gagccagcag 1550
gatgaatatt cctttgctgt acttgctgcc agtcagctgg ttatgggttt ttccaagaaa 1610
tttggtctct aacaaaattc ttcagagcct ttactgacta tgctggatat ttttggaagg 1670
gatcccatat ttttgaactt catacagcag aatttcaaac aatcttggga aaataacaac 1730
ttttatctgc ccagtaagga caactaacac ctagtatcat aatcatttcg taagagacag 1790
gtaatttcat caccgagtgc atat 1814

1430
1490
1550
1610
1670
1730
1790
1814

FIG. 7A

ctactgagaa gggatatact ctacagactaa aggacagtcc ctagtactga ttcaatctgg 60
ctttatagaa aattcactat attgtcattg tatttcacag tttgcccttt gtcttagctg 120
gtaagacaga gcctatgata aggacttggtg tggcatgcag gtatttaatt ggcaacccca 180
gagggcagaa gcaagagatt taggagttta agagagggtg atataagagt atattatcaa 240
agttgtagtg tggacaacag aaactcaaat attcaaggac cagcatgtag acagcctcct 300
aagatgtcta ctacagacaaa gaatttcagg tggaaggact tgttcatctg cttcacgccc 360
attggttgac aggaatatga actccattct gctgctgggc tagacatgca tgtgggctga 420
gtgagctttc cccagtatcc gtagcatcag aaaagtcgca gggcagaaag aaaagtatcc 480
aatttgaggt gaattactga ccttgaagtg agtgtaagcc taactagaat tctaccccag 540
ctggctgaag tgaaagggtg ggetgagagg aaataaggca ggactgcaca gtccccaatt 600
gtactgttca aatccactca tgccttctcat taagtcagct ctgccactga gccttcacg 660
tgggagggcag ccacaatctc tgcagaagat ttaatatata ccagtttggtg gaacaagctg 720
tnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 780
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 840
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 900
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 960
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1020
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1080
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1140
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1200
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1260
nnnnnnnnnn nnnnnnnnacc tgcagcactg ggatagccct ggtacagacg tagaacatgc 1320
ttgaggaggt tgtcaggagg aaatgagtta gaccttgcac agaactacca ccatcaagta 1380
cagttgggggt gaggcagaca tggtatgagt tgaggcatca gagatatctg atgctttatg 1440
ccaaattaaa attaatTTTT tcatggagtg aactgatcc acagaccaga ctccaagaac 1500
tttgagctga ctaaataccc atctcatcat aactttcctg gtattttctt ctggaaaaaa 1560
ttcttccttg atacagtttt cagaggcagc tagatgcact gtcattctct cccttttccc 1620

gagggcagaa gcaagagatt taggagttta agagagggtg atataagagt atattatcaa 240
agttgtagtg tggacaacag aaactcaaat attcaaggac cagcatgtag acagcctcct 300
aagatgtcta ctacagacaaa gaatttcagg tggaaggact tgttcatctg cttcacgccc 360
attggttgac aggaatatga actccattct gctgctgggc tagacatgca tgtgggctga 420
gtgagctttc cccagtatcc gtagcatcag aaaagtcgca gggcagaaag aaaagtatcc 480
aatttgaggt gaattactga ccttgaagtg agtgtaagcc taactagaat tctaccccag 540
ctggctgaag tgaaagggtg ggetgagagg aaataaggca ggactgcaca gtccccaatt 600
gtactgttca aatccactca tgccttctcat taagtcagct ctgccactga gccttcacg 660
tgggagggcag ccacaatctc tgcagaagat ttaatatata ccagtttggtg gaacaagctg 720
tnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 780
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 840
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 900
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 960
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1020
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1080
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1140
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1200
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1260
nnnnnnnnnn nnnnnnnnacc tgcagcactg ggatagccct ggtacagacg tagaacatgc 1320
ttgaggaggt tgtcaggagg aaatgagtta gaccttgcac agaactacca ccatcaagta 1380
cagttgggggt gaggcagaca tggtatgagt tgaggcatca gagatatctg atgctttatg 1440
ccaaattaaa attaatTTTT tcatggagtg aactgatcc acagaccaga ctccaagaac 1500
tttgagctga ctaaataccc atctcatcat aactttcctg gtattttctt ctggaaaaaa 1560
ttcttccttg atacagtttt cagaggcagc tagatgcact gtcattctct cccttttccc 1620

FIG. 7B

acttcctac ctatccacaa ttactaccc aatgccaa caaagttag cccaacttcc 1680
 ttctaactaa attattagtt tagaaggaaa gagaggagtc atgctaagga tcttaactgn 1740
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1800
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1860
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1920
 nnnnggggag aggaggggag aggaggtagg gaggggaaag aaagaaacta gaaatccatc 1980
 aatttttagga ccaacttcag gtaaaaaaat gaattaggca agttggtctt tcaacattct 2040
 ctacctctct ttatatcatg gttgagacca cagacttctc acctcatgaa agatgaactc 2100
 taactaattc atactaaagc taaagcctct aaagaggatt aaatatgagc aatcccacga 2160
 gaactttttt cccctggaat tgtttattca actgtcgttc gttatatgga atttcctgcc 2220
 tgggttaagt taggccagta ctttgatga attgtagttt tctagaaaga cgcttcttat 2280
 ataagaacct ctccaggga acaggggcct gtatgagatg aattgagaaa taactttaca 2340
 ccaactgatta tgtcagtgtt ctattctgca tggtagagat gtgaaagggc agactgacca 2400
 ttgctctgga agcctttacg ctgtgagaag ttaacagtgg agtaaaatgg ccaactccact 2460
 ctcttcatgg aagccaacat ggcttactaa atagtcaaca accatgggag agacctgtgg 2520
 ggtcttcac agagctcagg atctcctagg gtatcactca taaatacagc catcagggag 2580
 atggagaaat ctttgtgcag ccagaaattc tcaacctggg tttaccatc ctcccaact 2640
 ttgtattcgt cctactgttt actgacatgg atcctctgct tcattaacca tcccttctc 2700
 accacatgct ctctgaactt ggctgcacct tttctacctc catgccttct ttgctcagg 2760
 tttccacat aaatatcatt atttcctct ctactagctc caagcccacc ctctctctgg 2820
 ggcagctcag tcaactccagg gcacaagggg gtctttccct catccacat tttgagacct 2880
 actacctgga ccatttggtt gccttgtaac tatgcttgcc tttttaattg ctattttatt 2940
 ttccatgtat ttccattggt cacacaagtc ttctttattc cacactaagg caaaagcaga 3000
 gtctgtggt cataataagt gctcaacaaa tgttgggttg attgggttg agattccatc 3060
 ttagataatc gcagtccat catgccagct accagactgt gtggacagcc aggtcagagc 3120
 agccaaatga tattctagct tgtggcaca ataccagcaa caaaataacc aaagtcacac 3180
 atctgcctct gaggctcctg cttctatttc tcaaggcat ttttaagttg tcttatgact 3240

gagcctcctac ctatccacaa ttactaccc aatgccaa caaagttag cccaacttcc 1680
 ttctaactaa attattagtt tagaaggaaa gagaggagtc atgctaagga tcttaactgn 1740
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1800
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1860
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1920
 nnnnggggag aggaggggag aggaggtagg gaggggaaag aaagaaacta gaaatccatc 1980
 aatttttagga ccaacttcag gtaaaaaaat gaattaggca agttggtctt tcaacattct 2040
 ctacctctct ttatatcatg gttgagacca cagacttctc acctcatgaa agatgaactc 2100
 taactaattc atactaaagc taaagcctct aaagaggatt aaatatgagc aatcccacga 2160
 gaactttttt cccctggaat tgtttattca actgtcgttc gttatatgga atttcctgcc 2220
 tgggttaagt taggccagta ctttgatga attgtagttt tctagaaaga cgcttcttat 2280
 ataagaacct ctccaggga acaggggcct gtatgagatg aattgagaaa taactttaca 2340
 ccaactgatta tgtcagtgtt ctattctgca tggtagagat gtgaaagggc agactgacca 2400
 ttgctctgga agcctttacg ctgtgagaag ttaacagtgg agtaaaatgg ccaactccact 2460
 ctcttcatgg aagccaacat ggcttactaa atagtcaaca accatgggag agacctgtgg 2520
 ggtcttcac agagctcagg atctcctagg gtatcactca taaatacagc catcagggag 2580
 atggagaaat ctttgtgcag ccagaaattc tcaacctggg tttaccatc ctcccaact 2640
 ttgtattcgt cctactgttt actgacatgg atcctctgct tcattaacca tcccttctc 2700
 accacatgct ctctgaactt ggctgcacct tttctacctc catgccttct ttgctcagg 2760
 tttccacat aaatatcatt atttcctct ctactagctc caagcccacc ctctctctgg 2820
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 actacctgga ccatttggtt gccttgtaac tatgcttgcc tttttaattg ctattttatt 2940
 ttccatgtat ttccattggt cacacaagtc ttctttattc cacactaagg caaaagcaga 3000
 gtctgtggt cataataagt gctcaacaaa tgttgggttg attgggttg agattccatc 3060
 ttagataatc gcagtccat catgccagct accagactgt gtggacagcc aggtcagagc 3120
 agccaaatga tattctagct tgtggcaca ataccagcaa caaaataacc aaagtcacac 3180
 atctgcctct gaggctcctg cttctatttc tcaaggcat ttttaagttg tcttatgact 3240

Year	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

gttcctctttc	tactcattct	cataaattga	gctgtggact	gctgtgaccc	acaagcttct	3300
ccggaagtca	atgtataaaa	caaacacgga	aacgaagagt	atgggtgggtg	gaggggtactc	3360
cactgactct	agaatggatg	actgaacatt	ccaaatttca	agcacaagtt	agggagcaac	3420
agatcatttt	ccttttgaaa	tagggtttct	tctgctcagc	cagttgttgt	attttcatta	3480
ggaaatggaa	tgggactaca	gcacaaaaaa	taaatataaa	aggacccttg	tagggctggc	3540
agaaaagaga	atccttctta	ggagacctgg	aggtgattcc	aggcnnnnnn	nnnnnnnnnn	3600
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	3660
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	3720
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	3780
nnntcagaaa	gtgtgcaaac	agtaaaaaaa	aatggtatat	ctagcaagtt	gcatgcctta	3840
cttgtgagtt	catgaagttg	tggcaaggat	aagacaaata	ttttttgcc	ttgcatcatt	3900
atatcattgc	taagagtatg	ccattattnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	3960
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	4020
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	4080
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	4140
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	4200
nnnnnnnnnn	nnnnnnnnnn	nnnttaatt	aattaaatta	aagaaacgac	aaaagagtat	4260
gcaagaatth	taaaacaact	tagaggaata	tgtatgagga	tacaggctaa	gctaccataa	4320
tgaagagacc	tcgaaataca	gtgagaagcg	agacagaagt	atctttcggt	ccatgtaaca	4380
ctcaggtggg	tcagagcagc	taagcagcta	tgttccatag	agtcattcag	tgatccagat	4440
tatttttcac	tgttgctctg	ccattctcca	ggatgttgtc	cctataaaat	tgtcaaagct	4500
cagtcagtgc	caaaccctat	tttcaacctt	cagaaagtaa	acgagtgggt	gaaaacacat	4560
tcaatgtttt	aaggccaaga	ccttgaaaac	tcactctctt	agcctgaact	tagattacat	4620
ggctggggcc	acttaactat	aggggagggt	tggaaacata	gtctctgaga	agccatgtgt	4680
ccagctaatt	ccctaatact	aaagttgaaa	gaaagaatgg	attaaccagc	agtataccac	4740
aaggtaacaa	atgactagga	ggatcagggt	aggtggacta	gaaaagagac	agtcaattca	4800
gtgcaacaat	tccatattga	cacttttcat	gtagctgttg	cttggctcta	tctagagagg	4860

FIG. 7D

actcagaggt agtttagata aggcctttgc cctccaaata cagtctaagc agactgattt 4920
cctactggat gttcaacttt ggagtcctca gggatgagta gggcttctgt acgtggaaga 4980
gactatgagg gaacctgcac aggacaaggg tttgcataaa gacactgagg tagggacctc 5040
tcctgttggt gggacagtga gaggcccagg tctccttgac tcacaaagtg cttactaagc 5100
acttactaga aattaagaag cagattataa tcaatatggg ttatccaatg tttggatgag 5160
caaggctcct tatcttttct tcgttaatgt taatcacact cttttggatg gagacaaata 5220
tctgtggggg ctnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 5280
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 5340
nnnnnnnnnn nnggctcaga ctaaataatg tctaattctt tctccagtaa aacaatccgt 5400
ggttctcaga tagcactgtg ctggaggtag tggggtttga gggctgggaa gttgggagga 5460
ctgagccctt cccgtgagc agtttcgtcc agtttttctt gtaccagcct gtcattgtta 5520
ttccatgtga atgactccag aggcaaaatt caagcttttg aatagggcac aaattaactt 5580
gagtaccctt tcatttcctt gtaggtgaac actcctctag cctgccttt tgtcagtcctg 5640
gagcccttgt tctaattctt acacaccaga ggactttaca aggctttccc cagcctccag 5700
aattattctt ctgatccacc ctctactaaa ctcacccttt cctcagtgtc aggacgttga 5760
aaaaccgaaa caaggcaaag ggccaattgt aataattcac actaaggcat gagtgactag 5820
gtttagtata ttaacactac ctaggatatt ctatttcttc caaaaggatc ctgttaatcc 5880
ttgaaattta acaactaatg gtatagattc taagcactgt gagtacttgt cagtggggga 5940
aagacatttt tgggctgaga gactttgcca ctgnnnnnnn nnnnnnnnnn 6000
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn aagaaagatg attagatnnn 6060
nnnnnnnnnn nnnaaaaaat aacatgagag nnnnnnnnnn nnnnnnnnnn 6120
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6180
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6240
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6300
nnnnnncaca gagctagccg tgttggtgt caccactca tgtggccagc ctgttggtct 6360
acctcttagt tgccatgtaa caggattctg gtgcttttcc tttgccagg t cag atg 6417
Gln Met 213

FIG. 7E

gaa ccc agg acc cat cca act tgg ctg ctt cac att ttc atc ccc tcc	6465
Glu Pro Arg Thr His Pro Thr Trp Leu Leu His Ile Phe Ile Pro Ser	229
tgc atc att gct ttc att ttc ata gcc aca gtg ata gcc cta aga aaa	6513
Cys Ile Ile Ala Phe Ile Phe Ile Ala Thr Val Ile Ala Leu Arg Lys	245
caa ctc tgt caa aag ctg tat tct tca aaa ggtaagtga ttttattcat	6563
Gln Leu Cys Gln Lys Leu Tyr Ser Ser Lys	255
ggtaacccaa tgcactgggt gtctgcagca tgagccactg ctttgactg caggcctatg	6623
gcttgctgct ttcattgctaa acccactcag agcttatgaa ccactttgag cttgtcttga	6683
tgattatattt tcccagaag aaaatggctc tcactgtcag tgagctgaac ttcttacct	6743
gagtttttta aagggaatgt tttgttctta tgtctgaaag agtttgtctt attctttgag	6803
ccaagagctt tcactcagct catgagagtg atgttatttt ggcaatgcag agagctacgt	6863
gctccgattt tgctgggtggg aggttgccag gatcctttct gaggattcct tccattttca	6923
ccccctttt cccagctctg gatatgacct ggggttaaacc cccccctct cccaggaatc	6983
tcaacctcac ggttgggttaa ggaaaggaga aaggtttgtg aggccatttg gggataagga	7043
aacagctggt tgggtggtgca ttaacgtctt tcagcagctc ccttcgagtt tctccttagc	7103
ctgttgattt cttaccaaca cactcctggt ctgttggtacc agctgggaca gagcatgctg	7163
aagcctttca gccctgattt cattgcttca ttgttcatgt gtctgtcttt ggtttcctgg	7223
gtggagcctg ccacaaaaac cccagaatg tatgcaggcc tagctggtgc tttcctaaac	7283
ggctcccttg tctgcactca atgaacttct ccaaagatct atacatggcc tcatctatag	7343
aaagagaaat gacatgtgga aataattcag taggagtttg cagcagcaat atctgaggac	7403
taggggaatt ttaagtgggt gttatcttac atttatactc ataacttcta tattttcatc	7463
tgccataaaa tattgtcatg ttctatttgt ccattgccct atgtgtgtat gtattcactt	7523
gggtgctgac cacaatattt ctaactgtag aatgcaagga attgttgcca aannnnnnnn	7583
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn	7643
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnncttca tggtaaagga	7703
ggaggtatgt ccaacagaac ttgcactttt aaatagaacc acttcagaga gttgtgtcag	7763
gtgcacctca gttgtcttat cttctgccat tcttctttta cctctcacac ccataacctca	7823
gggttcaagg cctggggcct gaggactcct taataacttc agaaatgagc agctgagtgt	7883

FIG. 7F

tccgttccag ctgtctttgg gagaatggaa tggagtcaca ctcaaagata gagtggaaat 7943
 aaatcctctc ctcatccttc accccaatct taagagttag tgaggatata agtagctccg 8003
 agctgggagg taaagctcaa gttctaactg tgattaggag acctttctta caaataagaa 8063
 ttaagtgaat aaatgtgcaa acaatttctt ttatatTTTT aatgaaccag agagaaatca 8123
 tggttgcta tataaccctt gtctccaact cacttgcatc cagatctgct ttcttacatg 8183
 tgtctgccat gcacacaaac ttgtgtgcca tggaaaaggg ttgagaactg ctggtgatgc 8243
 agacagagct ttaannnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8303
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8363
 nnnnngcagc aagagaagga acattttaca gcttattggc cgaacttcac tgccgctagt 8423
 gtggttcaac ttggactaca gagaaatctt cctaactggg ttccctgtat tcaactcctgc 8483
 tacctccaac ttggtctggt ctcaactttt gctataatag gcttttataa atcataaatc 8543
 taccatgtgt cctctgtcca gaccttctcc atggcttctt attgctcact ggatgaagtt 8603
 ccaacgagcc caggatgggt tgactcatgt ctccagcttt aactgcatca ccatcacctt 8663
 cattgtctaa agctctaacc acacaggatt ttctagtcct cagaggcatg gcagtctttc 8723
 aattccgagt tttctcatac aatattgtct cttcttataa tattttttct tgttgtccac 8783
 ctgagttgga gtcacttttt aaatctcagc taagcttata cttcatcaag tctttcctaa 8843
 ttctacctcc acgcaccaca cccattacat taaatcccct tattatatgt ttccatagca 8903
 cctaactttct tcttttcagt atactcagca cacaatcaca tgtctaggat ctgttttaat 8963
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 cccacaaact gccagaaagc ttacttagcc cacagggcca gtgctaggca gctagggttag 9143
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 gtccttccag atgtctccat cactgtgca aaggtaacct tgctggttcc gatccccaca 9263
 cagaccacag tgctacaaga ttacagttct tatgggtccc caacacatgc tctgtcattg 9323
 gtcccaaagc aggacctta tgggttgatg aggtaggagg aggtccctgc cttagocaca 9383
 gctgcacaca gccagcctct tcccttctag gccctcatgt tgagcctggg acgccagtcc 9443
 taacttcctt ctcttcagtt cctcttaggg ccattgggtat cctgaatttc ttagtccatt 9503

FIG. 7G

gcaaagttaa gtaaagaagc agcaggcttg gtccctttcc ttccagatgg cttcttagct 9563
cctgaacaga tttaccacc tatacctcag tgactagctc tgtgtactaa agtgtattgg 9623
gagggcagcc attattggct cataaaaggt cctgcttacc attttcccct aagaggaacc 9683
attcaacagt ttggggctcg agggtgacct gctgggctct agagaagaag ctggcaactt 9743
ctgttgcaaa ataatgtaa attctgcttc atctgcttgt cttnnnnnnn nnnnnnnnn 9803
nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 9863
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atnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 9983
nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 10043
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gaaggagaaa gtaagtttca atccaaaata attgagtgaac ttatacattg acttgctgag 10403
ccaatggcaa agtcaagtta gaatccagca gaagtcacca gctacagaat ctagatcttt 10463
agaacatgtc ttcagatctt cagaacagtg tttcttaaac tctcttgtga aggaacagtt 10523
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ggcacagccc tagaagattg agccagaatt ttacagaggt ttaaagacca aatatgctgg 10643
tttatggtta cctgtggccc acagagaatg gcagcactaa cctcaggcat aaatgaggta 10703
cccactgaag ccaacattca agagcaatto ctatgggtta accattgggc tcctttcaaa 10763
tgcaaaccct catgaaagag actacagtgc tgaatagaga cctccaaatt ccaggccaag 10823
ctcaggatag tcatgaggga attactaaaa acctgtgata tagggcaaaa gcagaattag 10883
gaatggactg atttcaggaa cccaggcaat ggcaggagtt gggcattaaa tcctaaaaga 10943
gaatcagagt gggagggaat atgtgaaatc agaggttaag aaaaaagtga aaacctnnnn 11003
nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 11063
nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 11123

gcaaagttaa gtaaagaagc agcaggcttg gtccctttcc ttccagatgg cttcttagct 9563
cctgaacaga tttaccacc tatacctcag tgactagctc tgtgtactaa agtgtattgg 9623
gagggcagcc attattggct cataaaaggt cctgcttacc attttcccct aagaggaacc 9683
attcaacagt ttggggctcg agggtgacct gctgggctct agagaagaag ctggcaactt 9743
ctgttgcaaa ataatgtaa attctgcttc atctgcttgt cttnnnnnnn nnnnnnnnn 9803
nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 9863
nnnnnnnnnn nnnnnnnnn nntaaacatt gaacctacta tatgcagggt agtatgctag 9923
atnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 9983
nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 10043
nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 10103
nnnnnnntgn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 10163
nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 10223
nnnnnnnnnn nnnnnnnnga tttgaataca ggtctgtttg actccaaaac ttgtggccta 10283
tttgttgcaa aagtgcttaa tacaaattgg ttcagtcaat attattatct ttgaacaatg 10343
gaaggagaaa gtaagtttca atccaaaata attgagtgaac ttatacattg acttgctgag 10403
ccaatggcaa agtcaagtta gaatccagca gaagtcacca gctacagaat ctagatcttt 10463
agaacatgtc ttcagatctt cagaacagtg tttcttaaac tctcttgtga aggaacagtt 10523
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ggcacagccc tagaagattg agccagaatt ttacagaggt ttaaagacca aatatgctgg 10643
tttatggtta cctgtggccc acagagaatg gcagcactaa cctcaggcat aaatgaggta 10703
cccactgaag ccaacattca agagcaatto ctatgggtta accattgggc tcctttcaaa 10763
tgcaaaccct catgaaagag actacagtgc tgaatagaga cctccaaatt ccaggccaag 10823
ctcaggatag tcatgaggga attactaaaa acctgtgata tagggcaaaa gcagaattag 10883
gaatggactg atttcaggaa cccaggcaat ggcaggagtt gggcattaaa tcctaaaaga 10943
gaatcagagt gggagggaat atgtgaaatc agaggttaag aaaaaagtga aaacctnnnn 11003
nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 11063
nnnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn nnnnnnnnn 11123

FIG. 7H

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nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11183
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11243
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11303
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11363
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11423
nnnnnnnnnn nnnnnnaaaaa attaaaagaa agatgtgaaa tcaaggaaac ttactggtga 11483
gcagcatccc attatgtgaa cttgtgcttc tgaaccagta acttgagtta ctttgagcca 11543
gtatcagtca cttatacctt agtgcaaaat taattgatca gacattctga cctggaccag 11603
ggaaggcagg cagaagtagc agtcaagact aaagcagaaa agggagagct aattctgcag 11663
ccagacattt cctggattga atacccaaat tagtccctca gcctttaagt gcctgagggc 11723
caggagtaga cagaggaatg gaaagtgtga gacttctttg ttcacactct ttgcctaggg 11783
gccagatttt gctttatgca ttaccatccg aagtcccagg ccacagtga ctttgggct 11843
togctatgtg gatttattta gatttacttt ttgtcctgcc atattttaat ctataagcca 11903
aacagttttc tcattaatct tattccattt ctggaatttt tccttttca gac aca aca 11961
                                     Asp Thr Thr    258

aaa aga cct gtc acc aca aca aag agg gaa gtg aac agt gct          12003
Lys Arg Pro Val Thr Thr Thr Lys Arg Glu Val Asn Ser Ala          272

gtgagtaagc atgattttta cttttctttc ttactttctt ttctctctca gcttgaattt 12063
taaagtaacc actgttctat taattcatgg aaggcaactg aatagttcca gcttatagaa 12123
tcttctgtgt tggtagcatt tcagcgaagc ctcggtctta gcccagaac aatcatgcca 12183
tcttttgctc ggtctatatt cctaagcact cctagatgat actgcaactgg acctctggtc 12243
tcacatagtt agaaacagag ttaaaatcga acagcaaaga gaagatattc aactgcgatg 12303
caattgacaa tggatgtttt tgcaacaaac aatgattaag aagtacattg ttgtgggctc 12363
tgagtcaaga gtaatatggg aaaaacacaa gtctcttcat gaggttgaca ggtttgagc 12423
tggaatctgt ggaggaggaa ggatatgata taggggtcag aagaagtggg ttactaaaat 12483
cattaagcct ggttgatga aaagcttaga ctcaggggaa gcagnnnnnn nnnnnnnnnn 12543
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12603
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12663

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11183
 11243
 11303
 11363
 11423
 11483
 11543
 11603
 11663
 11723
 11783
 11843
 11903
 11961
 12003
 12063
 12123
 12183
 12243
 12303
 12363
 12423
 12483
 12543
 12603
 12663

FIG. 7I

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nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12723
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12783
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 12843
nggcaccaag agatgagggg ggcagtcttg gccatatatt tggctgaagt aagtcaattt 12903
gtcattcctg catgagcctt tataaacaga agtaagtaac caactactat ttggtcattg 12963
gagttgtcca agaggccagg gttctgtcta atacctgttc atgcatgaac atgccaacct 13023
agattgcatg cagactacca gttttgggtt tttgtttagt tcagcaggat ttttctcagc 13083
tcaactgctc tcaaaacttc agcaacaaaa ggacatctgt gatatcagaa tctaccactc 13143
taagtatttg gatgcaatag caatgaatat ctgagtaaatt ctaggtgggg agtgggggca 13203
ccctgtagcc aaaatgattt aacaaaaatca aacaaaaatt ttggaaatga tgccttggtg 13263
caatgaagag actacttgag gtaggtttga cttatctaatt atcttatttt ctttaccaat 13323
acctaagag gaatttaaatt atttctagat agctttggaa aggtccctta aagaggcacc 13383
agcataccac tgccagatct aatcccccca aacactgttt tcatcatcat catgtcatct 13443
cttgtctcta tagatcatat caaatccttc ccagagtttt tcaggccttt tgacaactag 13503
ccacatttca ctaagccaac tcactacca ctcttcaaca aaacttttcc tcaagttgag 13563
ctgctccacc aacaccactg ccatgagctc attcccactt ctgtggcttt gtcattgttg 13623
gttatttttt tggagtgtcc tccctattcc ttcttacttg tccaatccc aacttttggc 13683
atgggtctact ttaagataca gtaatgagta actttannnn nnnnnnnnnn nnnnnnnnnn 13743
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13803
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 13863
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nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 14043
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nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 14223
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nntacataca 14283

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12723
 12783
 12843
 12903
 12963
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 13383
 13443
 13503
 13563
 13623
 13683
 13743
 13803
 13863
 13923
 13983
 14043
 14103
 14163
 14223
 14283

FIG. 7J

caacactctc ttgcttaatc tgtaagactc tctccccac tcataccttt ttatTTTTcc 14343
 tctgcattgt acacacaatc tataccactc ttaagcacat gattacagcg ttatTTTTctg 14403
 gctgcttcta tgtgtctata ttttaggtcc acctggtcaa tataataaag tgggatatta 14463
 gtgttaatgc aactatatgg tatttgatat ttgtctttct gtccgtttat caatgtttct 14523
 tatagnnnnn nnnnnnnnnn nnnnnnnngg tgtctgattt tgaccaaatt tgactaaata 14583
 cnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnngt tgagtctatc aactcaaaaa 14643
 agaataacct acaacaataa caagtttcag aacatTTTT aaattactga ttttatgagn 14703
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnngaatt ccattgccta 14763
 gaaattgcc aaggtaagat tttaatattg ctcaggccca gacagctcag ggctttgaca 14823
 ttccacacc cattctctgc catccagtt ctatctcacc ccaaaacct ccattatgag 14883
 gagagtgtac agctctaggc tgcccgagg ccacccgca ctctcatttt gtgactcggc 14943
 atcttgggag atggagtctt gggacttagc ctggacatgt cccttgcatg tacttcttac 15003
 aagactttta ttcagatgaa tattttccct tccaacttaa gaagcacagg gcttgctggt 15063
 tttgcttcac taaccagcaa ctgaagcaag acctgaactg tgaaaatgcc taatagagtt 15123
 cagtattagc gctgtttcac catttctctg atctcttgcc tttgtgcaca tgatagaatt 15183
 gcacttctct gtgattaatt tgtagttaag tgtggtcatg taactcgctt tggatcaatta 15243
 aatgtaagca taagtgatgc gtgttatttc tgggtagaag atgtaagagt tggcatatgc 15303
 tttgccatat tttctttatc catctggcat ggtaaccagt aacattctag gtagtaattg 15363
 ctccatcagt ctcatctct gagtgactaa aattgacaga gtccctgct gacctcaat 15423
 gtacatggaa catgaacaag aataagcttt tgttttttat attgagattt tggagttgtt 15483
 tgttcttaca gcattacct gtttactcta atacaacatg gaaaaaactg gaacctataa 15543
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 aagtaaaaat atgaaaatgc ctgtaatcat gtttttgat tatggaatca agtattgctt 15783
 tttactttta tgttttctga attttgttg tacttacta catttttgag tgccctgatg 15843
 tattactttc aaaaagaaga agaatacttt ctgaagccat ttcaaccatc ccactcacc 15903

FIG. 7K

tctctagatc ccagtaacca aatacattat ataggactct tcatcagtcc ttatcaagtt 15963
taggaagggc gatgctatac cttctttaaa ggacacctac caatgtctta gttgcctttc 16023
aaagactcct agcacagcta aatgtgatgg atatgtctta aggatataag agctgaagtg 16083
acttgcataa ggtcatatca taacttactg ttagaaatgg agctagaact cagacccact 16143
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nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnntgaaaca 16443
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accgataagg tactcaagaa acagttctca ttcacataat ttgggttaaa acaaaaagaa 16683
gccagctttc tatatacttt tgggtccagtc tttacgtttt ttgttttggt ttgtttgttt 16743
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nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 17223
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 17283
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 17343
nnnnnnnnnn nnnnnnnnnn nnnctetaag atacctgtg cttcttgga catatttga 17403
aatcatgta gctctcaaat tatccctatg tcctgaagcc caccttacca tcaatcctca 17463
gaaataccca acccatgtca ggcaacttca cactttcttt cttcaggcag cacagttgtc 17523

15963
16023
16083
16143
16203
16263
16323
16383
16443
16503
16563
16623
16683
16743
16803
16863
16923
16983
17043
17103
17163
17223
17283
17343
17403
17463
17523

FIG. 7L

tcagggaggg aggagagtgc tattagcaag aggagtcact aacagcttca ctcacctgtg 17583
 cccatgaatt tttaatggtg tgaaaagtct gtgtattttt tatggttctc tatggctcat 17643
 ataagagggga caaacaatac atgaaagttc agagatgggg acaaataatca ctttaagctg 17703
 gggataatca gggaagaaga aagttttcat ggagaagggtg acttttgaat caggaagaaa 17763
 tggaacagc aaactcttct agatagagga gacactaaca ggaaaggcag agaggcagga 17823
 aggtgtggga aagtgcacgt gaccccgctc agagagaaag ccaggtgtga gataaggggg 17883
 aaagactggt agggcatgta ttgtaaacca ctaattccag gcaaaagtta gattttactt 17943
 actaagcaag agtgcttcag ttagatccta gcaggaaatg gagggtatgc ttagaagagg 18003
 taactgaggc aagtttaatt tataaagggtg tgtgcagcat taagggaac cagcaaggga 18063
 tactgagcat gccaggatgc aagagcaggc agggaagggtg actattccta ggtctgaagg 18123
 agaaagggga gggagcagtt ccagaaccc tagtaaaaat ggcaatgaga aaggtccatc 18183
 tggcaggacc tatggtcttt aacagagga caaagtcaac ccacaacttg tctgggaggt 18243
 tgctgaggaa tagatacccc aacctctctc tcaaccact gcaacactct tttccccta 18303
 gactgagccc agtcaaagac agagggagga gccagtgat gcagtctgca atgtcatcat 18363
 cctggagcat gaatagagtg cagcagggtg aataatgagt ctgcaggaat taatagaaat 18423
 atctgacaca atagggaact ataagaggtt ttgaatagga gaggcccctg aaatgtgctc 18483
 caatattact gaactatgtg tggcccaaag aatggaagag gaacagctct tgcaataggt 18543
 ctgaggagag aagctgaaga cttggactag ggcaatggta aaaactgtgg aaagaagttt 18603
 taaatgaaaa gttttaaac atgcggcttc cagctagatg aactttttta aaaaaattag 18663
 ttctcactc aaattttggg gaggttatat attttctaata cataaaaaat gatttttctt 18723
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 Ile 273
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 agactagcca acacctggcc atgaaacttg ccccttcact gatctggact cacctctgga 18961
 gcctatggct ttaagcaagc actactgcac ttacagaat taccctactg gatcctggac 19021
 ccacagaatt ccttcaggat ccttcttgct gccagactga aagcaaaagg aattatttcc 19081

FIG. 7M

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cctcaagttt tctaagtgat ttccaaaagc agagggtgtg ggaaatttcc agtaacagaa 19141
acagatgggt tgccaataga gttatttttt atctatagct tctcttgggt actagaagag 19201
gctattgaga ctatga 19217
```

Author	Year	Country	Sample Size	Study Design	Findings
Smith et al.	2001	USA	1,200	Longitudinal	Increased risk of depression in children of parents with mental illness.
Johnson et al.	2003	UK	800	Cross-sectional	Higher levels of anxiety in children of parents with anxiety disorders.
Williams et al.	2005	Canada	1,500	Family Study	Genetic factors play a significant role in the transmission of mental illness.
Miller et al.	2007	Australia	900	Case-control	Early life stressors increase the risk of developing mental health problems.
Lee et al.	2009	South Korea	1,100	Longitudinal	Parental mental illness is associated with higher rates of substance use in adolescents.
Chen et al.	2011	China	1,300	Cross-sectional	Children of parents with depression show higher levels of emotional distress.
Wong et al.	2013	USA	1,400	Family Study	Environmental factors interact with genetic predisposition to influence mental health outcomes.
Ng et al.	2015	UK	1,600	Longitudinal	Parental mental illness predicts later-life mental health problems in offspring.
Patel et al.	2017	India	1,700	Cross-sectional	Stigma and social support significantly impact the mental health of children of parents with mental illness.
Kim et al.	2019	South Korea	1,800	Family Study	Genetic and environmental factors both contribute to the risk of mental illness in children.
Nguyen et al.	2021	Vietnam	1,900	Longitudinal	Early life trauma and parental mental health status are key predictors of adolescent mental health.
Al-Sayid et al.	2023	Iraq	2,000	Cross-sectional	War-related stressors and family dysfunction are associated with increased mental health issues in children.

FIG. 8

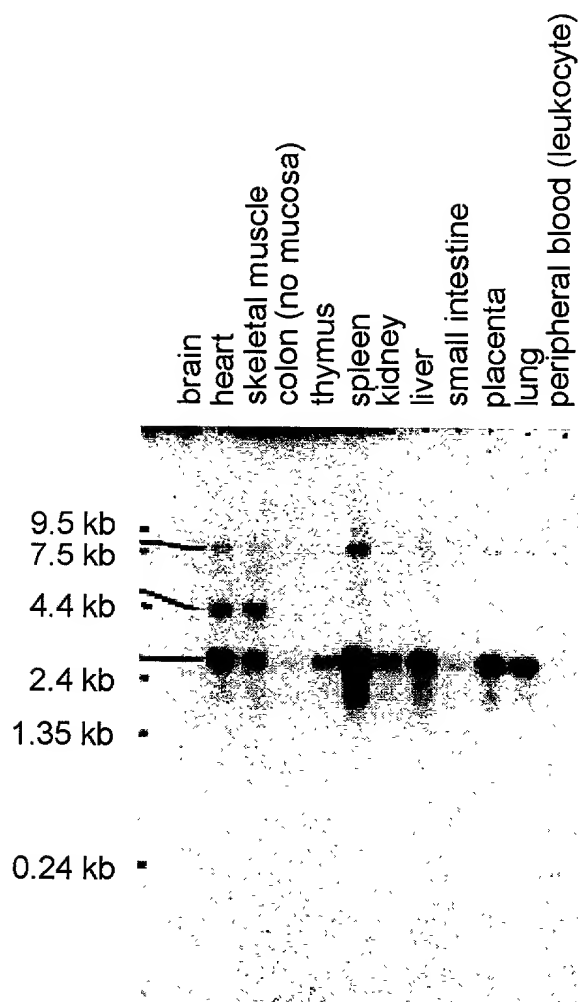


FIG. 9

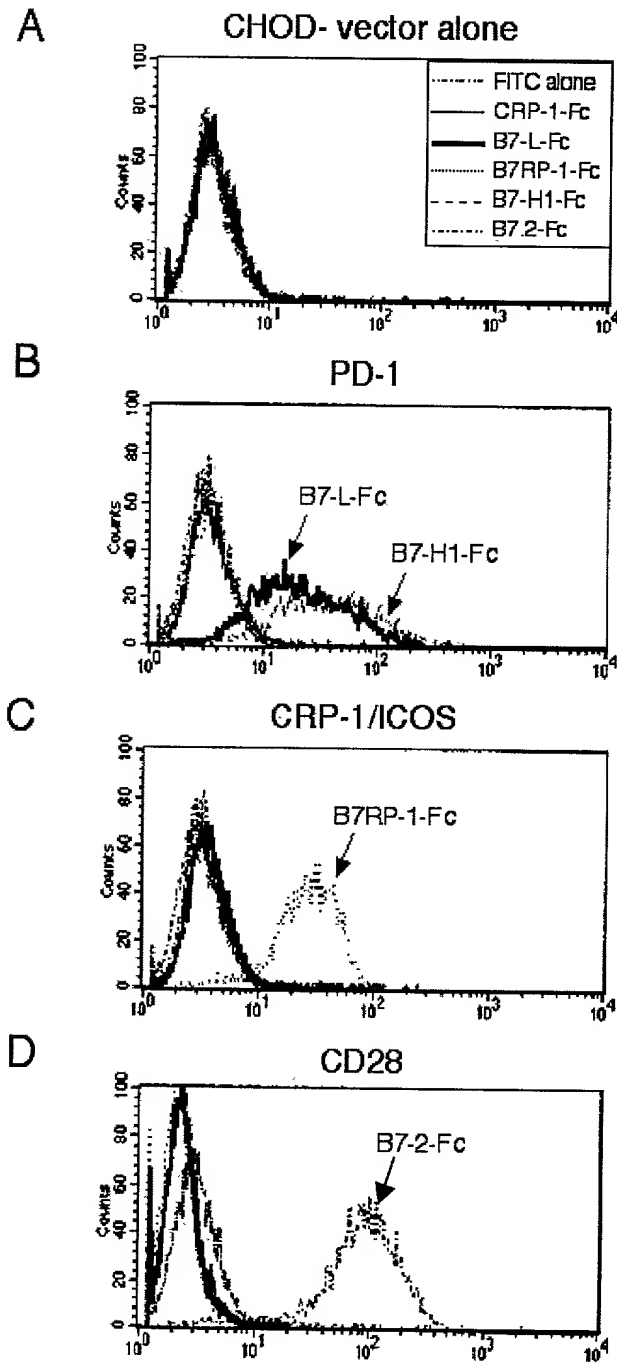


FIG. 10

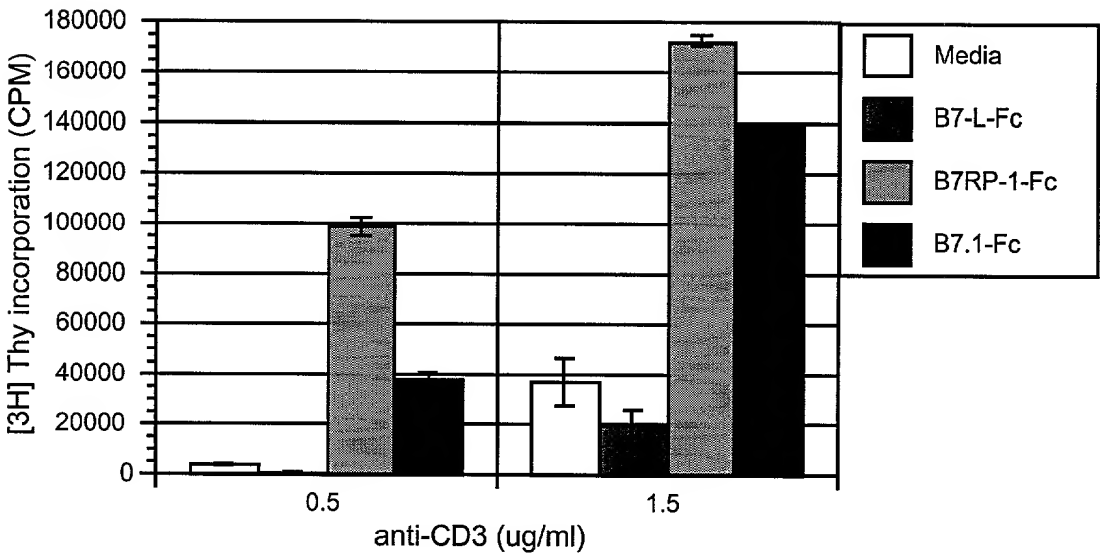


FIG. 11

